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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,530	11/30/2001	Paul L. Master	QuickSilver Technology, I	6090
34756	7590	09/06/2005	EXAMINER	
NANCY R. GAMBURD 566 WEST ADAMS SUITE 350 CHICAGO, IL 60661			PAN, DANIEL H	
			ART UNIT	PAPER NUMBER
			2183	

DATE MAILED: 09/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/997,530

Applicant(s)

MASTER ET AL.

Examiner

Daniel Pan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-100 is/are pending in the application.
- 4a) Of the above claim(s) 32-100 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/01/02, 05/12/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

1. Clams 1-100 are pending.
2. Applicant's election with traverse of Group I (claims 1-31) in the reply filed on 06/27/05 is acknowledged. The traversal is on the ground(s) that :
 - a) many of the pending claims are related to issued US Application 09/815,122, many with virtually identical claim language, plus addition of configuration information, to create the system embodiments claimed in pending application;
 - b) The PCT case found unity of invention;
 - c) the claimed method of claims 32-62 are only capable of operating with the system in claims 1-31, and the method of claims 32-62 are the gerund form of Group I for configuration information being received;
 - d) claims 63-88 are only capable of operating with the system of claims 1-31, and the method of claims 63-68 are the gerund form of Group I for configuration information being transmitted ;
 - e) clams 89-90 drawn to a plurality of what is clamed in Group I (clams 1-31), at higher level of description. Claim 89 claims a plurality of configuration information of claim 1, a plurality of matrices comprised of the computational elements of claim 1, and higher level matrix interconnection network of claim 1;
 - f) claims 91-92 (Group V) included elements of claim 1 (Group I) with addition of the element s from dependent claims 7 and 20-22.

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g) merely assertion that Group I and V are separately usable is insufficient and erroneous;

h) claim 93 (Group VI) included elements of claim 1 with amore detailed specification of architecture and functional modes from dependent claims 14 and 15;

i) merely assertion that Group I and VI are separately usable is insufficient and erroneous;

j) Claims 94-100 tracks claim 1 and included the same basic elements of claim 1 configuration information, a plurality of computational elements, and an interconnection network. As such, these claims are not independent inventions from claims 1-31;

k) the Examiner searched the related application as a single invention (U.S. Patent No. 6,836,839), and the PCT was also able to perform a search as a unitary invention;

l) USPTO failed to telephone and discuss this matter with applicant in advance of restriction as required by MPEP § 812.01.

3. This is not found persuasive because :

4. as to a) , b) above, applicant argued that "many with virtually identical claim language", but failed to show which claims had the virtually identical claim language. Furthermore, the fact that the related US Application has virtually identical claim language does not necessarily mean that the inventions in the pending application are not restrictable. As to the PCT, the fact that the related PCT Application has been

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found the unity of invention does not necessarily mean that inventions in the pending application are not restrictable. In fact, If inventions are independent and distinct, they are restrictable (see reasoning set forth in Paragraphs 2-23 in last Office action on 03/21/05). Therefore, if two or more independent and distinct inventions are claimed in a single application, the examiner in an Office action will require the applicant in the reply to that action to elect an invention to which the claims will be restricted, this official action being called a requirement for restriction (also known as a requirement for division). Such requirement will normally be made before any action on the merits; however, it may be made at any time before final action (e.g. see the requirement for restriction set forth in 37 CFR 1.142 : (a)) ;

5. As to c), the reason for restricting was already given in Paragraph 2 of the last Office action on 03/21/05, therefore it will not be repeated herein. Furthermore, in regard to applicant's remark, clams 32-62 can be operated in materially different system in clams 1-31, such as a system which doe not receive the configuration information.

6. As to d), the reason for restricting was already given in Paragraph 3 of the last Office action on 03/21/05, therefore it will not be repeated herein. Furthermore, in regard to applicant's remark, clams 63-88 can be operated in materially different system in clams 1-31, such as a system which doe not transmit the configuration information.

7. As to e) , claims 89-90 (Group IV) and clams 1-31 (Group I) are distinct from each other because they are separately usable. For example, Group I has separate utility such as a system which does not have an adaptive integrated circuit including the matrix interconnection network coupled to a plurality of reconfigurable matrices . See MPEP 806.05(d).

8. As to f) , inclusion of the elements of dependent claims 14 and 15 of Group I into claim 93 of Group VI does not change the scope of parent claim 1 of Group I.

9. As g), including the elements of dependent claims 7 and 20-22 of Group I into claims 91-92 of Group V does not change the scope of parent claim 1 of Group I.

10. As to h), Group I and V are separately usable because of the reason already set forth in Paragraph # 5, lines 3-7 in the last Office action on 03/21/05, therefore, it will not be repeated herein.

11. As to I), Group I and VI re separately usable because of the reason already set forth in Paragraph # 6 lines 2-6 in the last Office action on 03/21/05, therefore, it will not be repeated herein;

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12. As to j), the fact that claims 94-100 (Group VII) included the same basic elements of claims 1-31 (Group I) does not necessarily mean that the two inventions are not independent. Group VII and Group I are restrictable because they are related as subcombinations disclosed as usable together in a single combination. Furthermore, the subcombinations are distinct from each other if they are shown to be separately usable. For example, invention I has separate utility such as a system which does not have an adaptive integrated circuit including a plurality of fixed and differencing computational elements. See MPEP § 806.05(d).

13. As to k), see response to a) and b) above.

14. As to l), applicant is misinterpreting the MPEP section. MPEP § 812.01 clearly states :

"no telephone communication need be made where the requirement for restriction is complex, the application is being prosecuted by the applicant pro se, or the examiner knows from past experience that an election will not be made by telephone."

In the instant case, applicant filed one hundred (100) claims with seven independent claims which have about 250 words for each of the independent claims (except one). If applicant thinks one hundred claims in this form are not a complex issue, what else is complex? Therefore, based on the complexity of the restriction of the 100 claims which the examiner believed that would not be clearly resolved on the

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phone, the written action was mailed to applicant instead of the telephone. Therefore, a proper procedure was followed based on MPEP § 812.01.

The requirement is still deemed proper and is therefore made FINAL.

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

15. Claims 1 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The reasons are given below.

16. As to claims 1, Claim 1 is not limited to tangible embodiments. In view of Applicant's disclosure, specification page 7, lines 1-3,15,31, the medium is not limited to tangible embodiments, instead being defined as including both tangible embodiments (e.g., [wireless base station]) and intangible embodiments (e.g., [wireless link] [air interface]). See also page 9, line 31 [wireless interface], page 27, line 10 [download through other medium], page 27, lines 29,30 [wireless download]. As such, the claim is not limited to statutory subject matter and is therefore non-statutory. The invention is not restricted into the hardware. For example, the air interface, the wireless download are not concrete and tangible. The downloaded configuration information can be in the form of frequency waves transmitted in the air space, therefore, it is directed to a non-statutory subject matter.

Patentability shall not be negated by the manner in which the invention was made.

17. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

18. Claims 1-15,17,18,20,21,23-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Wise (5,768,561).

19. As to claims 1,17, Wise disclosed a system for adaptive configuration, the system comprising:

- a) a first set of configuration information (see fig.137) , the first set of configuration information including a first subset of configuration information (see carry-save multiplier , carry save adder, carry save subtractor) and a second subset of configuration information (carry-save multiplier , carry save subtractor, carry save subtractor);
- b) a plurality of heterogeneous computational elements, the plurality of heterogeneous computational elements including a first computational element (see resolving adder at y input) and a second computational element (see the d multiplier at x) , the first

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computational element having a first fixed architecture (adder) and the second computational element having a second fixed architecture (multiplier), the first fixed architecture being different than the second fixed architecture; and

c) an interconnection network (see common block in fig.137) coupled to the plurality of heterogeneous computational elements, the interconnection network operative to configure the plurality of heterogeneous computational elements for a first functional mode $x[3,4]$ of a plurality of functional modes, in response to the first subset of configuration information (see configuration carry-save multiplier, carry save adder, carry save subtractor in the common block), and the interconnection network further operative to reconfigure the plurality of heterogeneous computational elements for a second functional mode ($x[2,5]$) of the plurality of functional modes, in response to the second sub set of configuration information (see carry save multiplier, carry save subtractor, carry save subtractor), the first functional mode ($x[3,4]$) being different than the second functional mode ($x[2,5]$).

20. As to claim 2, Wise also included a first system operating mode (see carry-save multiplier, carry save adder, carry save subtractor).

21. As to claim 3, Wise also included a second system operating mode (carry-save multiplier, carry save subtractor, carry save subtractor).

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22. As to claim 4, wherein the first set of configuration information corresponds to a first system reconfiguration capacity (see the $y[3,2]$ $x[3,4]$ connection path in fig.137) and the second set of configuration information corresponds to a second system reconfiguration capacity (see the $y[7,6]$, $x[2,5]$) .

23. As to claim 5, see fig.137.

24. As to claims 6,7, Wise showed the storage of the configuration information (see the RAM organized into common control block in col.265, lines 43-53, see also the common control block in fig.137).

25. As to claim 8, Wise also taught the configuration information is stored as a configuration of the plurality of heterogeneous computational elements (see configuration information in fig.137).

26. As to claim 9, The system of claim 1, wherein the first set of configuration information is stored in a machine-readable medium (see microprocessor read port in col.260, lines 32-35, see RAM in col.265, lines 43-53).

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27. As to claims 10, 11, Wise also taught the transmission through an air interface (carrier waves, see col.4, lines 21-23) , and transmitted through a wireline interface (see telephone line in col.4, lines 13-14.

28. As to claims 12,13, Wise also taught configuration information embodied as a plurality of discrete information data packets (see Discrete cosine transform in col.4, lines 1-11 for background, see also the data packet in col.13, lines 53-57).

29. As to claim 14, Wise also taught memory, addition (see adder) , multiplication (see multiplier) , complex multiplication , subtraction (see subtractor) , configuration, reconfiguration, control, input, output (input and output) , and field programmability (see dynamic adaptive configuration in col.6, lines 57-67, col.7, lines 1-12).

30. As to claim 15, Wise also included linear algorithmic operations (see col.4, lines 8-9), non-linear algorithmic operations (see the transforms), finite state machine operations (see state machine stages in col.30, lines 62-67, col.31, lines 1-4), controller operations, memory operations (see col.39, lines 35-57), and bit-level manipulations (see bit operation in col.40, lines 15-28).

31. As to claim 18, Wise was also operative to time and schedule the configuration and reconfiguration of the plurality of heterogeneous computational elements with

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corresponding data (see the pipeline control of the algorithm and the control clock signals in col.262, lines 55-65).

32. As to claim 20, Wise also included second d plurality of heterogeneous elements configured for controller to direct and schedule the configuration of the first and second modes (see the clock control circuit at input in fig.141).

33. As to claim 21, Wise also included a second plurality of heterogeneous computational elements is further operative to time and schedule the configuration and reconfiguration of the plurality of heterogeneous computational elements with corresponding data (see fig.141 the output clock latches).

34. As to claim 23. Wise did not explicitly show the mobile station having a plurality of operating modes. However, Wise in the background taught carrier waves by a transmitter (see carrier waves, see col.4, lines 21-23). Therefore, Wise must have included a mobile station.

35. As to claim 27, Wise also taught request for configuration information (seem the request in col.64, lines 34-50).

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36. As to claims 28,29, 30, Wise also determined system reconfiguration capacity prior to utilizing the second set of configuration information to reconfigure for a second system operating mode (see the token information for reconfiguration in col.61, lines 5-22, see also the prediction filters to perform either filtering based on the token fig.17, col.69, lines 11-20).

37. As to claim 31, Wise also taught a first portion of the plurality of heterogeneous computational elements (see configuration carry-save multiplier, carry save adder, carry save subtractor in the common block) are operating in the first functional mode (x[3,4]) while a second portion of the plurality of heterogeneous computational elements (see carry save multiplier, carry save subtractor, carry save subtractor) are being configured for the second functional mode (x[2,5]).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

38. Claims 16,19,20, 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wise (5,768,561) in view of Lee et al. (5,873,045).

39. As to claims 24, 25, 26, limitations of parent claims have been discussed in previous paragraphs, therefore, it will not be repeated herein. Wise did not specifically show the personal digital assistance, multimedia reception, and paging as claimed.

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However, Lee disclosed personal digital assistance, multimedia reception, mobile packet-based communication (e.g. see col.3, lines 2-16). It would have been obvious to one of ordinary skill in the art to use Lee in Wise for included the personal digital assistance, multimedia reception, and paging as claimed because the use of Lee could provide Wise the ability to accept information from different type of devices(e.g. the cellular devices), and it could be done by predefine the mobile devices of Lee (e.g. the pager , personal assistant) into the configuration file of Wise with modified control parameters (e.g. the R/W format of the specific device) so that the specific mobile device of Lee could be recognized by Wise, and because Wise also taught carrier waves transmitter (see col. col.4, lines 21-23), which was a suggestion of the demand for including e mobile devices (e.g. the pager, or personal assistant), as taught by Lee , into Wise in order to provide the enhanced capability of the system in Wise, and for doing so, provided a motivation.

40. As to claims 16,19,22, Wise did not specifically show the single bit stream of the configuration information as claimed. However, Lee disclosed a single bit stream of configuration information see the conversion into the single ended signal in col.8, lines 46-51). It would have been obvious to one of ordinary skill in the art to use Lee in Wise for including the single bit stream as claimed because the use of Lee could provide Wise the ability to adapt to different type of configuration information, therefore, increasing the capability of Wise to process a diverse set of configuration information, and Wise did disclose that his system was used for adapting to plurality of encoding standards (see col.1, lines 60-67), which was an indication of the need for including the

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conversion of the multi-standard encoding signals into a single integrated format in order to reduce the hardware space of the system, and therefore, provided a motivation.

41. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Widergren et al. (4,302,775) is cited for the background teaching of the single bit stream configuration word with the respective function mode (e.g. see the single composite data stream in of the data with the col.23, lines 24-37).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Pan whose telephone number is 703 305 9696, or the new number 571 272 4172. The examiner can normally be reached on M-F from 8:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chan, can be reached on 703 305 9712, or the new number 571 272 4162. The fax phone number for the organization where this application or proceeding is assigned is 703 306 5404.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

21 Century Strategic Plan

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